



SEQUENCE LISTING

<110> Maines, Mahin D.

<120> BILIVERDIN REDUCTASE FRAGMENTS AND VARIANTS, AND  
METHODS OF USING BILIVERDIN REDUCTASE AND SUCH  
FRAGMENTS AND VARIANTS

<130> 176/60792

<140> 09/606,129

<141> 2000-06-28

<150> 60/141,309

<151> 1999-06-28

<150> 60/163,223

<151> 1999-11-03

<160> 37

<170> PatentIn Ver. 2.1

<210> 1

<211> 296

<212> PRT

<213> Homo sapiens

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35 40 45

Gly Ser Ile Asp Gly Val Gln Gln Ile Ser Leu Glu Asp Ala Leu Ser  
50 55 60

Ser Gln Glu Val Glu Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His  
65 70 75 80

Glu Asp Tyr Ile Arg Gln Phe Leu Asn Ala Gly Lys His Val Leu Val  
85 90 95

Glu Tyr Pro Met Thr Leu Ser Leu Ala Ala Ala Gln Glu Leu Trp Glu

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Leu Ala Glu Gln Lys Gly Lys Val Leu His Glu Glu His Val Glu Leu		
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Leu Leu Lys Gly Ser Leu Leu Phe Thr Ser Asp Pro Leu Glu Glu Asp		
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Arg Phe Gly Phe Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu		
165	170	175
Val Ser Leu Phe Gly Glu Leu Ser Leu Val Ser Ala Thr Leu Glu Glu		
180	185	190
Arg Lys Glu Asp Gln Tyr Met Lys Met Thr Val Cys Leu Glu Thr Glu		
195	200	205
Lys Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys		
210	215	220
Arg Asn Arg Tyr Leu Ser Phe His Phe Lys Ser Gly Ser Leu Glu Asn		
225	230	235
Val Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asn		
245	250	255
Ile Phe Val Gln Lys Leu Leu Gly Gln Phe Ser Glu Lys Glu Leu Ala		
260	265	270
Ala Glu Lys Lys Arg Ile Leu His Cys Leu Gly Leu Ala Glu Glu Ile		
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Gln Lys Tyr Cys Cys Ser Arg Lys		
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<212> DNA

<213> Homo sapiens

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Gly Ser Ile Asp Gly Val Gln Gln Ile Ser Leu Glu Asp Ala Leu Ser
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Glu Asp Tyr Ile Arg Gln Phe Leu Asn Ala Gly Lys His Val Leu Val
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Glu Tyr Pro Met Thr Leu Ser Leu Ala Ala Ala Gln Glu Leu Trp Glu
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Leu Ala Glu Gln Lys Gly Lys Val Leu His Glu Glu His Val Glu Leu
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Leu Met Glu Glu Phe Ala Phe Leu Lys Lys Glu Val Val Gly Lys Asp

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Val Ser Leu Phe Gly Glu Leu Ser Leu Val Ser Ala Thr Leu Glu Glu		
	180	185 190
Arg Lys Glu Asp Gln Tyr Met Lys Met Thr Val Cys Leu Glu Thr Glu		
	195	200 205
Lys Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys		
	210	215 220
Arg Asn Arg Tyr Leu Ser Phe His Phe Lys Ser Gly Ser Leu Glu Asn		
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Val Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asn		
	245	250 255
Ile Phe Val Gln Lys Leu Leu Gly Gln Phe Ser Glu Lys Glu Leu Ala		
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Ala Glu Lys Lys Arg Ile Leu His Cys Leu Gly Leu Ala Glu Glu Ile		
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Gln Lys Tyr Cys Cys Ser Arg Lys		
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 <213> Rattus norvegicus

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 35 40 45

Ser Leu Asp Glu Val Arg Gln Ile Ser Leu Glu Asp Ala Leu Arg Ser  
 50 55 60

Gln Glu Ile Asp Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His Glu  
 65 70 75 80

Asp Tyr Ile Arg Gln Phe Leu Gln Ala Gly Lys His Val Leu Val Glu  
 85 90 95

Tyr Pro Met Thr Leu Ser Phe Ala Ala Ala Gln Glu Leu Trp Glu Leu  
 100 105 110

Ala Ala Gln Lys Gly Arg Val Leu His Glu Glu His Val Glu Leu Leu  
 115 120 125

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 130 135 140

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Ser Leu Phe Gly Glu Leu Ser Leu Ile Ser Ala Thr Leu Glu Glu Arg  
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 195 200 205

Lys Gly Leu Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys Arg  
 210 215 220

Asn Arg Tyr Val Asn Phe Gln Phe Thr Ser Gly Ser Leu Glu Glu Val  
 225 230 235 240

Pro Ser Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asp Ile  
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Phe Val Gln Lys Leu Leu Asp Gln Val Ser Ala Glu Asp Leu Ala Ala  
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Lys Leu Cys His Gln Lys Lys  
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 <212> DNA  
 <213> Rattus norvegicus

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 <213> Artificial Sequence

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 <223> where X is any aa

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<210> 7

<211> 6  
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<220>  
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binding domain of BVR

<220>  
<221> PEPTIDE  
<222> (2)  
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<220>  
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<222> (4)..(5)  
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<210> 8  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
oxidoreductase domain of BVR

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zipper of BVR

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<211> 3

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<213> Artificial Sequence

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of BVR

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<210> 11

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<223> Description of Artificial Sequence: kinase motif  
of BVR



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<210> 12  
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<223> Description of Artificial Sequence: kinase motif  
of BVR

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<223> Description of Artificial Sequence: nuclear  
localization signal of BVR

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<210> 14  
<211> 5  
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<220>  
<223> Description of Artificial Sequence: methylation  
site of BVR

<400> 14

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1 5

<210> 15

<211> 14

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: zinc finger  
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<220>  
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<223> Description of Artificial Sequence: protein  
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<210> 20

<211> 1014

<212> PRT

<213> Homo sapiens

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Leu Arg Met Ala Ile Met Val Gln Ser Pro Met Phe Asp Gly Lys Val  
35 40 45

Pro His Trp Tyr His Phe Ser Cys Phe Trp Lys Val Gly His Ser Ile  
50 55 60

Arg His Pro Asp Val Glu Val Asp Gly Phe Ser Glu Leu Arg Trp Asp  
65 70 75 80

Asp Gln Gln Lys Val Lys Lys Thr Ala Glu Ala Gly Gly Val Thr Gly  
85 90 95

Lys Gly Gln Asp Gly Ile Gly Ser Lys Ala Glu Lys Thr Leu Gly Asp  
100 105 110

Phe Ala Ala Glu Tyr Ala Lys Ser Asn Arg Ser Thr Cys Lys Gly Cys  
115 120 125

Met Glu Lys Ile Glu Lys Gly Gln Val Arg Leu Ser Lys Lys Met Val  
130 135 140

Asp Pro Glu Lys Pro Gln Leu Gly Met Ile Asp Arg Trp Tyr His Pro  
145 150 155 160

Gly Cys Phe Val Lys Asn Arg Glu Glu Leu Gly Phe Arg Pro Glu Tyr  
165 170 175

Ser Ala Ser Gln Leu Lys Gly Phe Ser Leu Leu Ala Thr Glu Asp Lys  
180 185 190

Glu Ala Leu Lys Lys Gln Leu Pro Gly Val Lys Ser Glu Gly Lys Arg  
195 200 205

Lys Gly Asp Glu Val Asp Gly Val Asp Glu Val Ala Lys Lys Lys Ser  
210 215 220

Lys Lys Glu Lys Asp Lys Asp Ser Lys Leu Glu Lys Ala Leu Lys Ala

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Pro Ser Gly Glu Ser Ala Ile Leu Asp Arg Val Ala Asp Gly Met Val						
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Phe Gly Ala Leu Leu Pro Cys Glu Glu Cys Ser Gly Gln Leu Val Phe						
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<210> 21

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<212> DNA

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